

## The reappearance of Van Rheede's *Tsjerou Tecka Maravara* as a new species of *Bulbophyllum* Thouars (Orchidaceae)

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### Abstract

*Tsjerou Tecka Maravara* described and illustrated by Van Rheede 300 years ago is now found to be a new species of *Bulbophyllum* sect. *Cirrhopetalum*, here called *B. rheedei* Manilal & Sathish. It is related to *B. frostii* Summerh. and *B. spathulatum* (Rolfe) Seidenf. Except for a sterile collection made in 1915 (s. coll. 11867. MH) from Karnataka, this mysterious species remained largely unknown since Rheede's discovery and its identity was elusive. It is described here in detail with analytical sketches, notes on phenology, ecology, affinities and seed characters based on SEM studies.

### INTRODUCTION

Van Rheede's (1636-1691) celebrated work *Hortus Malabaricus* published between 1678 and 1693 in twelve volumes contains descriptions and illustrations of 690 species of plants from the 17th century Malabar. Many generations of botanists were attracted to this monumental work since the appearance of its first volume in 1678. Identification of Rheede's plates proved an immense and intriguing task. Recently, Nicolson, Suresh & Manilal (1988) summarised their findings thereby updating our knowledge on this topic.

Of the 793 plates published by Rheede, about 17 are referable to orchids representing 14 species. A few of them represent only vegetative stages without floral details and their identity had been in confusion. *Tsjerou Tecka Maravara* is one such example.

*Tsjerou Tecka Maravara* was published in 1693 after Rheede's death. From the brief description provided, nothing could be deduced except that the fruits are rotund and the stems are branching, but the accompanying plate does not show either fruits or flowers.

Lamarck (Encyl. 1:189) remarked that this as an unnamed variety of his *Angrec sterile*. Poiret (in Lamarck, Encyl. Suppl. 1:686. 1811) commented that this could belong to Du Petit-Thouars's new genus, evidently pointing at *Bulbophyllum*, of the orchid family.

Samples resembling *Tsjerou Tecka Maravara* were collected by the junior author first in 1984 from Palode and later from Kallar and Cheenikkala in Trivandrum, far south of Rheede's original locality in Cochin. Like Rheede's, these collections too were without flowers and hence could not be identified. For comments, a few samples were sent to Dr. G.

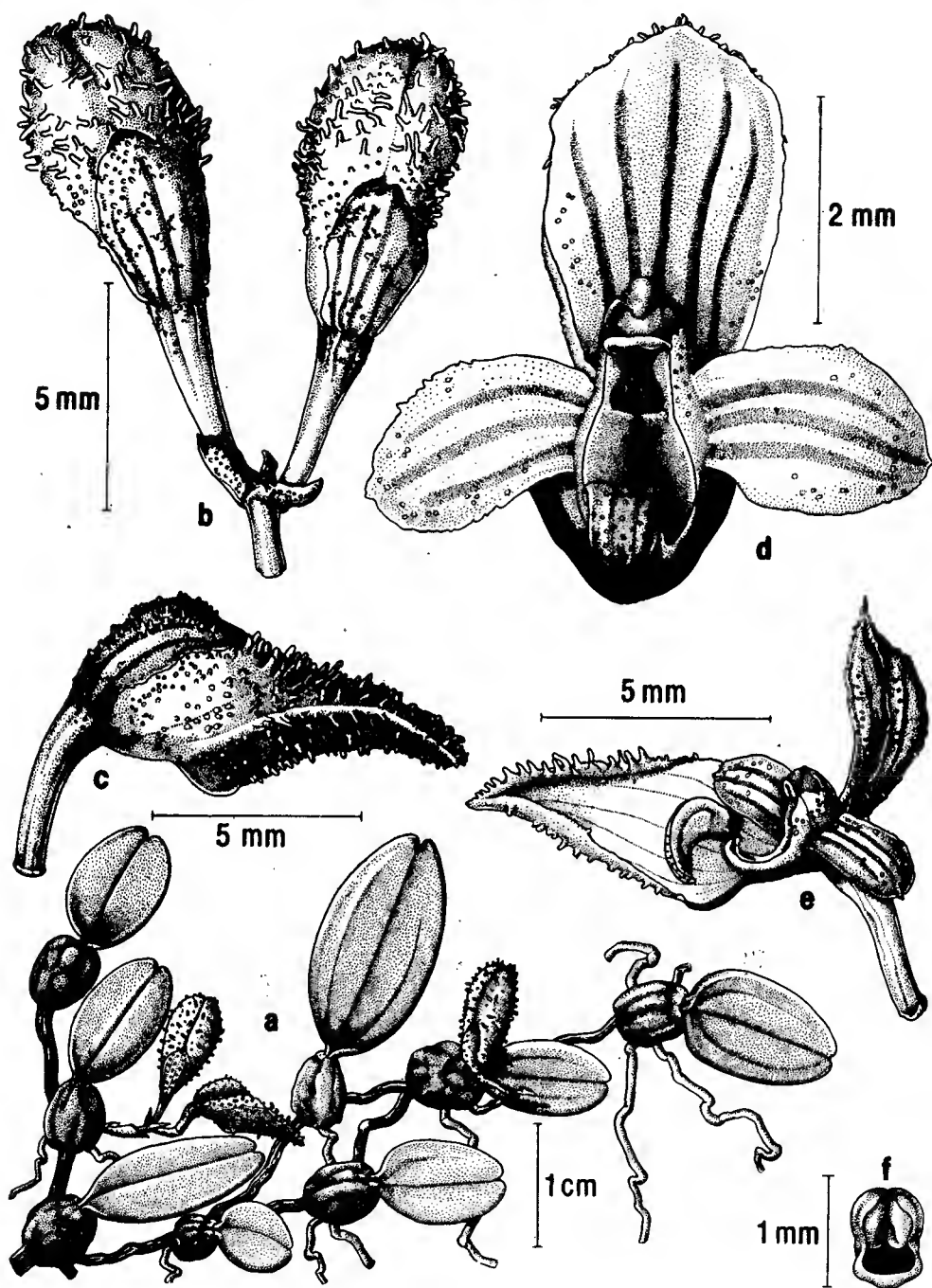


Fig. 1 *Bulbophyllum rheedei* Manilal & Sathish. a. Habit b. Flowers- front view c. Flower-side view d. Flower- inside view- lateral sepals removed e. Flower-side view- one of the lateral sepals removed f. Operculum with pollinia inside.

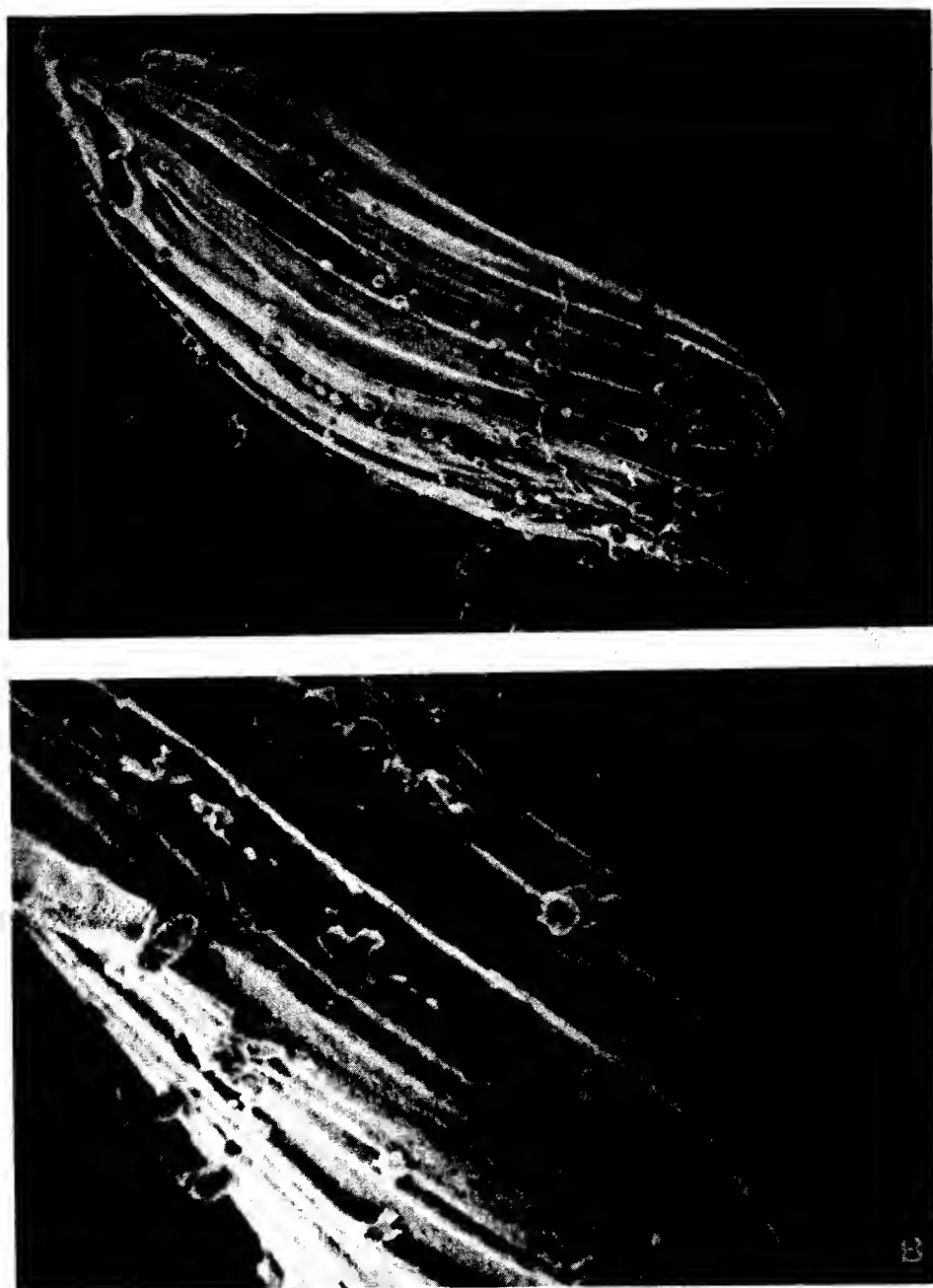


Fig. 2 *Bulbophyllum rheedei* Manilal & Sathish . Seed micromorphology through SEM A. a single seed x960 B.a portion of seed x 2400

Seidenfaden who advised us to keep the plants under cultivation and observe periodically for flowers. At last, after about four years, it produced flowers in 1988 during June-July. Preliminary studies revealed that it is different from all the species so far described in the genus *Bulbophyllum*. Its novelty was confirmed by Dr. G. Seidenfaden (D) who also commented on its relationships. Mr. J. J. Vermeulen (L) also commented on the novelty.

***Bulbophyllum rheedei*** Manilal et Sathish, sp. nov. (Fig. 1).

*Tsjerou Tecka Maravara* Rheede, Hort. Malab. 12: 45. t. 23. 1693.

A *Bulbophyllum frostii* Summerh. et *B. spathulatum* (Rolfe) Seidenf. inflorescentia floribus 1-2; petalis obovato-oblongis, integris, 3-dentatis; sepalis dorsalibus ellipticis ad apicem eroso-acuminatis; sepalis lateralibus ubique coherantibus, extra crasse papillatis et labiis crematio-leutis purpureo notatis differt.

Type: Kerala, Trivandrum District: Palode, C. Sathish Kumar 4643 (holo, CALI; iso C, CAL, CALI, MH, TBGT).

This species is nearly related to *B. frostii*, but the latter has flowers much more marked with deep purple and the petals are fleshy hairy all along the edges and it usually has 4 flowers in the inflorescence and the lower edges of the lateral sepals are not connate. *B. frostii* occurs only in South Vietnam. *B. rheedei* is also related to *B. spathulatum* where the petals are lanceolate, linear-spathulate, 4 mm long and the lateral sepals are  $15 \times 6-8$  mm. It occurs in Sikkim, Burma, Thailand and South Vietnam. *B. rheedei* is distinct in having 1-2-flowered inflorescence;

obovate-oblong, entire to inconspicuously 3-dentate petals; elliptic dorsal sepal with erose-acuminate apex; connate lateral sepals with fleshy papillae on outside and creamy yellow lip with purple markings.

Small pseudobulbous herbs. *Pseudobulbs*  $3-7 \times 3-5$  mm, ovoid-globular, dark green with a few disintegrating sheaths at base; arranged irregularly on a 1 mm thick wiry rhizome having a few roots at their bases. *Leaves*  $8-20 \times 5-8$  mm, oblong-ovate or elliptic with a very small petiole of 1 mm long, midvein very prominent, dark green with small brown spots, bifid at apex. *Inflorescence* from the basal part of the rhizome, just near the pseudobulb region, scape about 5-10 mm long, pinkish violet, bracteate with mostly 2 flowers or rarely a single flower. *Flowers* creamy white with violet spots. *Dorsal sepal*  $5-6 \times 3-4$  mm, oblong, oblique, boat-shaped, gland-dotted, papillose on the outside, 5-veined with 4 purplish lines inside, cohering on margins throughout, attached to the column-foot at base, acute at apex. *Petals*  $2.5 \times 1.5$  mm, oblong, 3-purple lined inside, gland-dotted, 3-veined, entire or inconspicuously 3-dentate at apex. *Lip* thick, creamy yellow with darker purple markings, attached to the column-foot by a short ligament just below the column-foot apex. *Column* over 1 mm long, thick, narrowly winged laterally with an incurved foot. *Operculum* 1 mm, apical, pollinia 4, in 2 unequal pairs. *Rostellum* broad, curved upwards. *Fruits*  $1-1.2 \times 0.5-0.6$  cm, globose to rotund, stalked. Seeds  $41.3 \times 1.3 \mu$ , elliptic or spindle-shaped with solitary embryos (Fig. 2).

Flowering and Fruiting : May-September  
Altitudinal Range : 50-175 m.

Occurrence : KERALA; Trivandrum District: Palode *CSK 505, 507* (TBGT) *4643, 4686* (CALI, TBGT); Kallar *CSK s. n* (CALI). Quilon District: Cheenikkala *CSK 1622* (CALI). Aleppey District : Muhamma In Shertallai *CRS 10230* (CALI). KARNATAKA; South Kanara District : Karkal *s. coll. 11867* (MH).

Distribution : So far known from only from Kerala and Karnataka.

Ecology : Grows in riverine vegetation on *Calophyllum apetalum* Willd. (Clusiaceae), *Madhuca neriifolia* (Moon) H. J. Lam (Sapotaceae), *Poeciloneuron indicum* Bedd. (Bonnetiaceae), etc. At Muhamma, it grows on *Mangifera indica* L. in association with the fern *Pyrrosia heterophylla* (L.) Price.

Etymology : Named after H. A. Van Rheedee, who found it some 300 years ago.

**Acknowledgements**

We are grateful to Dr. G. Seidenfaden (C) and Mr. J. J. Vermeulen (L) for confirming the novelty of our specimen; Dr. Dan H. Nicolson (US) for literature and other assistance; Dr. V. J. Nair (MH) for the Latin diagnosis and Dr. C. R. Suresh (CALI) for lending us his collection from Rheedee's locality.

**Literature cited**

Nicolson, Dan H., C. R. Suresh & K. S. Manilal 1988. An Interpretation of Van Rheedee's Hortus Malabaricus. Pp. 1-378. Koeltz Scien-	tific Books, Konigstein, Germany. Rheedee, H. A. Van. 1693. <i>Tsjerou Tecka Maravara</i> . Hortus Malabaricus 12: 45. t. 23.
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